

NOAA Hazardous Waste Site Report

Diamond Alkali/Diamond Shamrock Corporation (II-32)
Newark, New Jersey
April 13, 1984

Location and Nature of Site:

The Diamond Alkali site is an inactive chemical manufacturing facility currently owned by Marisol Chemical, Inc (Figure 1). It is located on the Passaic River in the Ironbound section of Newark, and is three or four acres in size. The former plant site has five buildings, approximately 30 storage tanks, and 600 drums, and lies within a mixed residential and industrial area. Diamond Alkali operated this chemical facility from 1951 to 1969. It has subsequently been sold several times and was last purchased by Marison, Inc., in 1980.

This site was identified as number one on the priority list by the New Jersey Department of Environmental Protection (DEP) special dioxin task force. The company was known to have manufactured Herbicide Orange, commonly known as Agent Orange, under government contract in the 1960's. Agent Orange, a defoliant used in Vietnam, is a 50/50 mixture of herbicides 2,4,5,-T (2,3,5-trichlorophenoxy acetic acid) and 2,4,-D 92,4-dichlorophenoxyacetic acid) in which dioxin, a contaminant, may form. The Centers for Disease Control (CDC) established a one part per billion (ppb) limit for safe human exposure to dioxin over a 70-year life span. Analysis of samples from the Diamond Alkali site ranged up to 50,000 ppb. Lower levels (but still above one ppb) were found in the vicinity of the site. The site also contains a corrosive, chemical waste which was reported to react violently with water. This waste was also reported to be incompatible and flammable when mixed with solvents.

Proximity of Chemical Hazard to Marine Resources:

The Diamond Alkali site is on the south bank of the Passaic River. The Passaic is navigable and tidal at this location. Contamination of the area and the river with dioxin, herbicides, and other chemicals is confirmed. Elevated levels of dioxin and other chemicals were detected in finfish and shellfish from the Passaic River near the site. A U.S. Environmental Protection Agency report noted that:

- there was physical evidence of odors and discoloration of vegetation and soil caused by chemicals at the site;
- drums and chemicals on the site were migrating to a "drainage ditch right out to the Passaic";
- there was a large volume of drums and liquids stored on the site; and

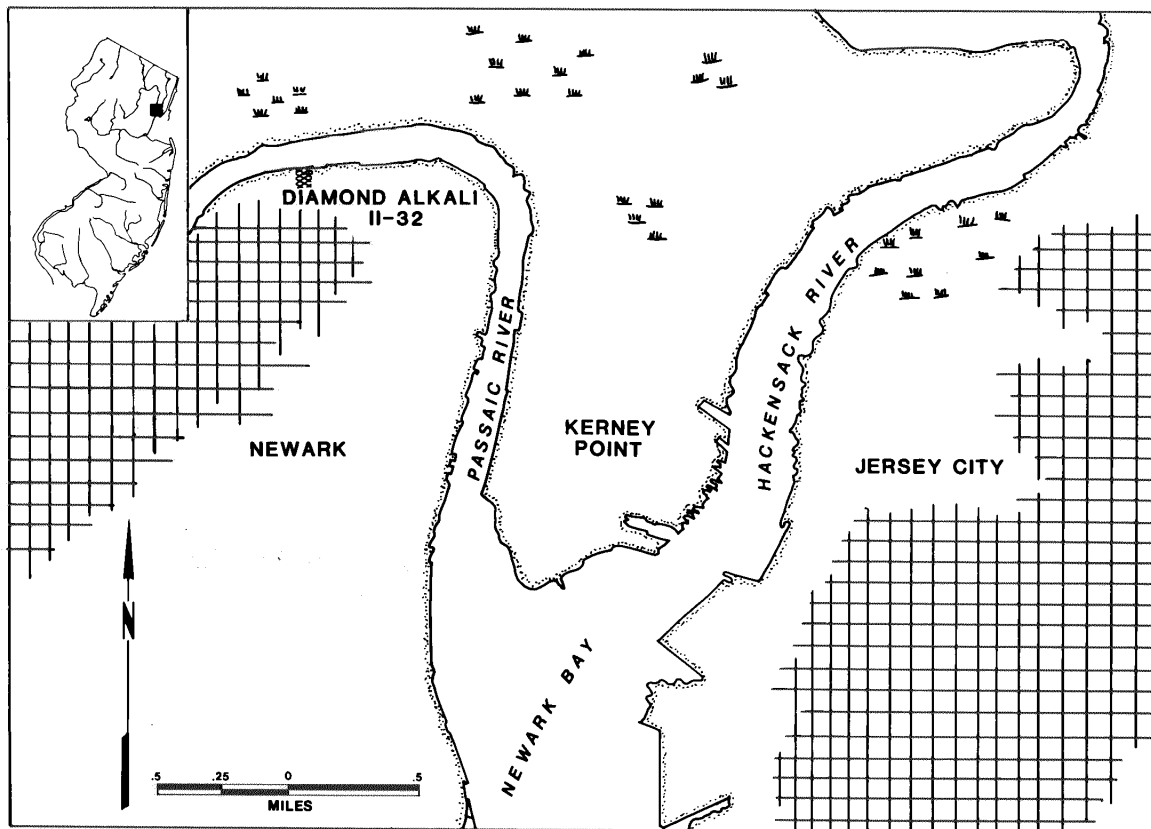


FIGURE 1. Site location.

- the site presents a "low hazard to groundwater, but a high hazard to surface" waters.

Marine Resources at Risk:

The Passaic River supports small runs of anadromous fish but is not a primary spawning or nursery area.

Table 1. Fishery Resources of the Passaic River and Newark Bay (1-4)

Finfish Species	Adult Habitat	Spawning Area	Nursery Area	Comm. Fish.	Rec. Fish.	Migr. Route
<u>Anadromous</u>						
Alewife						x
Blueback herring						x
Tomcod						x
Striped bass		x				
<u>Non-anadromous</u>						
White perch	x					
Flounder	x					
Bluefish	x		x			
Spot	x		x			
Northern kingfish	x					
<u>Shellfish</u>						
Blue crab	x		x		x	

The Newark Bay area is very heavily developed and does not serve as a primary spawning or nursery habitat for anadromous fish or shellfish. Some anadromous fish enter this area during spawning runs, and several species of fish are present all year as adults or larvae (2).

There has been a long history of declining anadromous fish runs in New Jersey, dating back to the late 1800's. There are no confirmed runs of any anadromous fish in the Passaic River, and the American shad is considered extirpated there (6).

The southwest corner of Newark Bay is a wintering area for waterfowl, and at Shooters Island there is a wading bird nesting colony.

Summary of Site-Related Actions:

On June 3, 1983, New Jersey Governor Kean announced the hazardous findings on the site. The site was quarantined, fenced, and covered with a tarpaulin. An expanded sampling plan was developed, and at least one "hot spot" was found. Sampling activities and results or cleanup actions taken beyond that are not known or reported in EPA files.

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References:

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